PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 91.D1035WO1	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/IT 03/00260	International filing date *(day/month/year)* 28.04.2003	Priority date *(day/month/year)* 22.04.2003
International Patent Classification (IPC) or both national classification and IPC F21V21/38		
Applicant DI GIUSEPPE, Massimo		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
18.11.2004	05.07.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bagge Af Berga, H Telephone No. +49 89 2399-7075

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IT 03/00260

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-4, 6-12	as originally filed
5	received on 23.06.2005 with letter of 22.06.2005

Claims, Numbers

1-7	received on 23.06.2005 with letter of 22.06.2005

Drawings, Sheets

1/2-2/2	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-7
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-7
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-7
	No:	Claims	

2. Citations and explanations

   see separate sheet

Clarity

1 The expression "in particular" in line 1-2 in claim 1 makes the meaning of claim 1 unclear because:
(i) This expression makes the features following this expression purely optional, e.g. the feature "fixed supporting head", but later in claim 1 it is referred to the " fixed supporting head". Since the feature "fixed supporting head" is optional, a reference is being made to a feature that has not been mentioned before.
Consequently, there is a lack of clarity.

1.1 A corresponding situation applies to the other features following the expression "in particular", up to the expression "at one end of the tower". These features are also necessary to make the meaning of claim 1 clear.

1.2 Therefore, the expression "in particular" should preferably be deleted (Article 6 PCT, PCT/GL/IPE, C-III-4.6). Claim 1 has been interpreted as if the expression "in particular" was not present.

Cited documents

2 Reference is made to the following document:
D1: GB-A-2 163 805
Document D1 is considered to represent the closest prior art.

Novelty, Inventive Step and Industrial Applicability

3.0 The document D1 (the references in parentheses applying to this document) discloses the following features of claim 1 (see abstract, page 1, line 3-10, line 90-98, line 110-129, page 2, line 10-93, figures 1-9):

3.01 A mobile ring connecting/release device (2, 3, 4), for a high mast with a tower with predetermined height and a fixed supporting head (1) at one end of the tower, comprising connecting means attached to the mobile ring in such a way as to removably connect it to the fixed supporting head (1),
wherein the connecting means of the connecting/release device (2, 3, 4) comprise rigid contact elements (3) shaped in such a way that they rest on corresponding

supporting head (1) contact portions (10, 12).

3.1 The subject-matter of claim 1 therefore differs from this known mobile ring connecting/release device in that
i) the contact portions (10) have at least one substantially horisontal and flat surface (10a)
ii) the contact elements (9) have at least one substantially flat outer surface (9a, 91a), allowing them to rest without gaps on the corresponding flat surface (10a) of the contact portions (10).

3.2 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

3.3 The problem to be solved by the present invention may therefore be regarded as providing a mobile ring connecting/release device which is strong, reliable, simple and allows easy connection/release.

3.4 The solution (see 2.1 above) to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

3.5 None of the cited documents, neither per se, nor in combination, discloses this feature of the invention according to independent claim 1.
Also none of the documents leads the person skilled in the art towards this solution.

3.6 Claims 2-7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3.7 Accordingly, the subject-matter of claims 1-7 is novel and is considered as involving an inventive step, as well as considered to be industrially applicable.

Additional deficiencies

4 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

connecting rods substantially bear the load on their tips and so are particularly subject to load instability and breakage.

DISCLOSURE OF THE INVENTION.

The aim of the present invention is to overcome the above-mentioned disadvantages by proposing an extremely strong mobile ring connecting/release device, in particular for a high mast.

Another aim of the present invention is to provide a connecting/release device which allows easy connection/release of the mobile ring to/from the fixed supporting head.

A further aim of the present invention is to achieve the above-mentioned results with a simple, rational and reliable solution.

These aims are fulfilled by the mobile ring connecting/release device, in particular for a high mast, disclosed, as described in the claims herein, ~~and in particular characterised in that the~~ connecting means comprise rigid ~~contact~~ elements shaped in such a ~~way~~ that they rest on corresponding ~~contact~~ portions of the supporting ~~head~~.

BEST MODE FOR CARRYING OUT OF THE INVENTION.

This and other characteristics are more clearly

CLAIMS

1) A mobile ring (1) connecting/release device (8), in particular for a high mast with a tower with predetermined height and a fixed supporting head (3) at one end of the tower, comprising connecting means attached to the mobile ring (1) in such a way as to removably connect it to the fixed supporting head (3), ~~the connecting/release device being characterised in that~~ the connecting means COMPRISING ~~comprise~~ rigid contact elements (9) shaped in such a way that they rest on corresponding supporting head (3) contact portions (10), CHARACTERIZED IN THAT <> AND <<>>

2) The device according to claim 1, characterised in that each contact element (9) is rotatably fixed on a corresponding mobile ring (1) upright (11).

3) The device according to claim 2, characterised in that each of the contact elements (9) is shaped in such a way that it is at an angle to a horizontal direction, in the home configuration.

4) The device according to claim 2, characterised in that the contact portions (10) form guides for insertion of the mobile ring (1) upright (11) in the fixed supporting head (3).

5) The device according to claim 4, characterised in that the fixed supporting head (3) comprises means

for activating a rotation of a contact element (9) about an axis substantially perpendicular to a mobile ring (1) upright (11), for aligning the contact element (9) with the upright (11) and allowing insertion of the latter in the guides (10).

6) The device according to claim 5, characterised in that the means for activating the rotation comprise at least one pusher body (13) connected to the guides (10) and/or at least one peg (14) fixed to the supporting head (3), both acting on a portion (9a) of a contact element (9).

7) The device according to claim 2, characterised in that each contact element (9) is fixed on a corresponding mobile ring (1) upright (11) by means of a single pin (12).

8) ~~The device according to claim 1, characterised in that~~ the contact portions (10) have at least one substantially horizontal and flat surface (10a).

9) ~~The device according to claim 8, characterised in that~~ the contact elements (9) have at least one substantially flat outer surface (9a; 91a), allowing them to rest without gaps on the corresponding flat surface (10a) of the contact portions (10)